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STUDIES OF PERUVIAN BIRDS. NO. XXIV[1]

NOTES ON *PACHYRAMPHUS, PLATYPSARIS, TITYRA,* AND *PYRODERUS*

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I am greatly indebted to Dr. Herbert Friedmann of the U. S. National Museum, Washington, D. C., for the loan of certain specimens used in the following studies.

Names of colors have been capitalized when direct comparison has been made with Ridgway's 'Color Standards and Color Nomenclature.'

Pachyramphus spodiurus Sclater

Pachyrhamphus spodiurus SCLATER, 1860, P. Z. S. London, XXVIII, p. 279—Babahoyo, Ecuador; ♂, ♀ cotypes in British Mus.

Six specimens from northwestern Perú (Paletillas and Milagros) are referable to this west-Ecuadorian species. Five of them are females and one, from Paletillas, is a young male in molt, acquiring the adult plumage but still retaining many feathers of immaturity. Its characters are discussed in some detail in a comparative study of several allied species, given under *P. rufus.*

The females show considerable variation in the hue of rufous. The palest examples, with the crown only slightly darker than the back and the back more ochraceous than the average, appear to be young birds; the darker ones are adult. They are very like females of *rufus* except for a dusky postocular spot (sometimes developed into a narrow line around the eye or at least above it), darker grayish lores, and longer crest.

The males, in spite of the black interscapular patch and the gray under parts, have the same pattern of coloration as the males of *rufus,* including the style of marking on the upper wing-coverts and the presence of a tinge of yellow in the center of the breast. I have little doubt of the specific affinity of these two forms but prefer to leave them as distinct species until I have seen more examples of *rufus* from Perú.

The species has been recorded from Lechugal.

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[1] Earlier papers in this series comprise American Museum Novitates, Nos. 500, 509, 523, 524, 538, 545, 558, 584, 646, 647, 668, 703, 728, 753, 756, 757, 785, 819, 860, 861, 862, and 893.

Pachyramphus rufus (Boddaert)

Muscicapa rufa Boddaert, 1783, 'Tabl. Pl. Enl.,' p. 27—based on "Le Gobemouche roux, de Cayenne," Daubenton, "Pl. Enl.," cdliii, fig. 1; Cayenne (= ♀).

A single young bird from Sarayacu throws new light on the validity of several earlier records of "*cinereus*" from Perú which have been placed in the synonymy of other species by recent writers but which may, after all, have been properly allocated by Sclater and Salvin and by Taczanowski. The proof is lacking since the specimens have disappeared, and there is an added element of doubt in the fact that the three authors mentioned were not entirely clear as to the identity of the various plumages of *P. cinnamomeus*, *P. castaneus*, *P.* (*polychopterus*) *niger*, and the present species.

The three earlier records that are in doubt are from Sarayacu, Chamicuros, and Chayavitas. Unfortunately there are no descriptive notes in any of the accounts of these specimens, but only their identification as belonging to *P. cinereus*. Taczanowski's detailed descriptions in the 'Ornithologie du Pérou' were made from Cayenne specimens and are accurate enough except that he has described a young female for an adult and given a description of the adult female under the heading of a young bird (of unspecified sex).

The females of the four species are distinct enough to be readily separated in both adult and immature plumages, and the males likewise are quite distinct from each other. Nevertheless, there is no evidence that the Sarayacu, Chamicuros, and Chayavitas specimens were ever studied together, and error in their determination is not unlikely. The only specimen at hand from west of the Huallaga, suggesting the possible identity of the Chayavitas bird, belongs to the *castaneus* group, and the only specimen from east of the Huallaga, which might indicate the identity of the Chamicuros and Sarayacu records, is the young specimen of *rufus* I have mentioned. In the absence of proof to the contrary, however, I am inclined to place all these doubtful records where their original recorders placed them under "*cinereus*" = *rufus*, with some query accompanying the Chayavitas bird.

The females of *rufus* may be told in either juvenal or adult plumage by a sharp blackish line on the outer webs of the primaries and secondaries adjacent to the shafts; the outer margins are rufous. In this particular they are likely to be confused only with the females of *spodiurus* which, however, have a dusky area immediately behind the eye, a longer crest, and grayer lores.

Young females of *rufus* are much like the adults except that the rufous breast is inclined to be tinged with yellowish while the top of the head is duller, sometimes distinctly grayish over the auriculars and on the occiput; sometimes, as in the type of "*marcidus*," the whole top of the head is gray. The markings on the remiges are as in the adult. In the young females of *spodiurus* the gray behind the eye is, as in the adults, confined to a small postocular space or extended anteriorly over the orbit to the lores.

In *cinnamomeus* females, the whole outer web of the primaries and secondaries is rufous, sometimes slightly duller next to the shaft but not sharply bicolored except for the outermost primary, which has the outer web dusky with a very narrow pale margin, at least basally. The rufous crown has buffy shafts and the lores are marked by a brown or dusky spot on the lower portion, often in decided contrast to the pale ochraceous upper margin. Young females agree in this respect. The pale tips of the upper wing-coverts and the broader and flatter bill are additional characters. Adult females of *castaneus* have the outer margins of the remiges about as in *cinnamomeus*, though darker rufous, but with the outermost primary as in *cinnamomeus;* occasionally some of the subexternal remiges have a suggestion of the same marking, but it is not so pronounced as in *rufus*. The upper wing-coverts have dark centers and pale margins, giving a pattern quite different from that of *cinnamomeus*. The top of the head has the rufous coloration confined to a broad central area bordered laterally and on the nape by a broad gray band, while the rufous feathers are tipped by a spot of paler rufous or deep ochraceous. Young females are paler and duller than the adults but follow their pattern relatively closely. Both adults and young may have a slight suggestion of a dark anteocular spot but it is not pronounced if present.

Young males of *cinnamomeus* and *castaneus* are not distinguishable with certainty from the young females of the respective species, since the characteristic modification of the subexternal (ninth) primary is acquired only with the fully adult plumage and there is no other evident difference between the sexes except that the males average larger. Young males of *rufus*, however, are quite different from the young females of that species, which is not surprising in view of the differences between the adults of the two sexes. The young males have the top of the head sooty gray or blackish, at least on the lateral and posterior borders, while the central area of the pileum is brownish, variously tinged with rufous or olive. The back is variously ochreous, isabelline, or dull

rufescent buff, or even more strongly rufous, while the breast varies from Colonial Buff to a cinnamon buff not unlike that in the adult females. The wings are quite characteristic. The outer margins of the primaries are very narrowly gray, greenish-gray, or whitish, separated from the shafts by a distinct black stripe. The outer margins of the secondaries are broader and more distinct and on the inner feathers are tinged with rufous. The margins of the tertials are more definitely rufescent. The inner margins of the remiges are olive-whitish, not rufous as in the females. The upper wing-coverts have dusky or grayish centers and rufescent margins, and have distinct, dusky shafts. The tail is rufous, but there may be traces of gray somewhere on the margins or basal portions of the feathers, and the shafts are noticeably blackish in contrast to the webs.

The only young male of *spodiurus* available is the single bird of that sex from Paletillas, recorded under that species. It is in full transition from juvenal to adult dress and already has a large part of the plumage like the adult males from Ecuador. The remainder indicates a bird with a light rufous back, rufous sides of the occiput, light ochraceous breast and belly, black remiges, with the outer margins of the secondaries more rufescent than in *rufus*, and greater upper wing-coverts with the whole outer web and the tip of the inner web rufous where, in *rufus*, only the outer margin of the outer web is rufescent or ochraceous. This species also, then, should be easily distinguishable in the juvenal male plumage.

The young bird from Sarayacu is sexed as a male and agrees with the diagnosis I have given, although it is the most rufescent of a series of twelve young males I have at hand. The next in rufescence is a skin from the right bank of the lower Rio Negro, in Brazil, but one from the left bank of the lower Madeira is decidedly "yellower" though not the yellowest of the series. The variation and the attendant possibilities suggested by these young males provide a strong probability that the type of *Muscicapa eques* Boddaert and *Muscicapa aurantia* Gmelin was a young male of the present species. The olive-brown pileum and the rufous back suffused with the same hue of green are not far from descriptive of some of the birds before me.

There are no other records of *rufus* from Perú except the doubtful ones from Sarayacu, Chamicuros, and Chayavitas.

Specimens Examined

P. spodiurus.—Ecuador: Daule, 1 ♂, 1 ♀; "western Ecuador," 1 ♂; Portovelo, 1 ♀; Santa Rosa, 1 ♀. Perú: Paletillas, 1 ♂, 3 ♀; Milagros, 2 ♀.

P. rufus.—French Guiana: Cayenne, 1 ♂, 2 ♀, 1 (?); Approuague, 2 ♂;

Mana, 1 ♂. DUTCH GUIANA: Paramaribo, 7 ♂, 7 ♀; "Little Wanica," 1 ♂; Kwata, 2 ♀. BRAZIL: Faro, 2 ♂, 4 ♀; Monte Alegre, 2 ♂; Rio Negro, Igarapé Cacao Pereira, 5 ♂, 3 ♀; Campos Salles, Manaos, 1 ♂; Para, 1 ♀; Rio Tocantins, Baião, 1 ♂; Rio Xingú, Tapará, 1 ♂; Rio Amazonas, Villa Bella Imperatríz, 2 ♂, 2 ♀; Rio Tapajoz, Tauarý, 2 ♂, 1 ♀; Rio Madeira, Borba, 1 ♂, 1 ♀; Rosarinho, 2 ♂; Teffé, 3 ♀. PERÚ: Sarayacu, 1 ♂. COLOMBIA: Libano, 1 ♂; Río Lima, 1 ♀; "Bogotá," 3 ♂, 1 ♀; Cali, 1 ♀; near Honda, 1 ♂. VENEZUELA: Caicara, 7 ♂, 3 ♀; Altagracia, 1 ♀; Las Barrancas, 2 ♀ (incl. type of *marcidus*), 1 (?); Cumaná, 1 ♀; San Antonio, 1 ♂, 1 ♀; San Felix, Cumaná, 1 ♂; Santa Ana Valley, 1 ♀; Cristóbal Colón, 2 ♀; Las Trincheras, 2 ♂, 1 ♀; Guanaguana, 1 ♂; Ejido, 1 ♀; Mérida, 1 ♂, 1 ♀, 1 (?); Hechisera, 3 ♂, 1 ♀; El Valle, 2 ♂, 1 ♀; Nevados, 1 ♀; Ortiza, 1 ♀; Río Mucujon, 1 ♂. PANAMÁ: (Lion Hill), 2 ♂, 1 ♀.

P. c. cinnamomeus.—PANAMÁ: 27 (incl. cotypes). COLOMBIA: 35. W. ECUADOR: 14.

P. c. magdalenae.—COLOMBIA: 2 (incl. type).

P. c. fulvidior.—COSTA RICA: 16. NICARAGUA: 10. GUATEMALA: 3.

Pachyramphus castaneus saturatus Chapman

Pachyramphus castaneus saturatus CHAPMAN, 1914 (Nov. 21), Bull. Amer. Mus. Nat. Hist., XXXIII, p. 628—La Morelia, Colombia; sex ?; American Mus. Nat. Hist.

In addition to the type of this richly colored form, I have a male and a female from Anayacu, Perú, a female from Lopuna, Perú, and a male and a female from Teffé, Brazil. The male from Anayacu is immature and is a very close match for the type which I take to be also immature. In both these birds the back is unusually dark and rufescent and the whole of the under parts likewise exceptionally deep cinnamon-ochraceous, but the plumage is of rather loose texture, the ninth primary is unmodified, the mandible is more or less whitish, and the feathers of the crest are short and neither compactly webbed nor lighter colored at the tips. These characters, except for the unusually dark coloration, are those of immaturity as exhibited by young birds of the related subspecies.

The Lopuna skin is not sexed but appears to be an adult female in worn plumage and is also very dark rufous, though not quite so dark as the two young males. The male from Teffé is adult and quite worn, and its coloration is not quite so deeply rufous as the Lopuna bird except for one or two new feathers on the mantle which show that the general hue is faded from an originally darker rufous tone. The second Teffé skin apparently is an adult female although it is sexed as a male, and is distinctly paler than the Teffé male on the under parts, though duller and a little less rufous on the back and about the same tone of deep rufous on the cap. The female from Anayacu is quite similar in these respects.

As will be seen in the discussion of the following form, some of the examples from farther down the Amazon Valley approach *castaneus* in one particular or another, but the line of separation between *saturatus* and this lower Amazonian form appears to lie between Teffé and the left bank of the Rio Madeira, or rather between the Purús and the Madeira rivers, since Hellmayr has referred birds from Caviana to *saturatus*.

The characters of the lower Amazonian birds were pointed out by Hellmayr [1929, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII (6), p. 174] without a name being given to the form. The material at hand substantiates his conclusions and fully warrants the naming of the form in question which may be known as follows.

Peruvian records are from Sarayacu, Chayavitas, Chamicuros, Pebas, Río Tigre, Yurimaguas, and "upper Ucayali" (= Cashiboya?).

Pachyramphus castaneus amazonus, new subspecies

TYPE from Rosarinho, Rio Madeira (left bank), Brazil. No. 282,597, American Museum of Natural History. Adult female collected May 31, 1930, by the Olalla brothers.

DIAGNOSIS.—Similar to *P. c. intermedius* of northern Venezuela, but paler above and below; belly usually pale buffy; bill larger, especially wider; tail usually distinctly shorter.

RANGE.—Amazon Valley from the left bank of the Madeira eastward, probably to the Tapajoz, crossing the Amazon to the north bank between Monte Alegre and the right bank of the lower Rio Negro; doubtfully appearing in northern Bolivia (see following text).

DESCRIPTION OF TYPE.—Top of head light Auburn, with paler, more ochraceous tips; a broad superciliary stripe commencing behind the lores, passing over the eye, and descending behind the orbit to involve the postocular space, and continued in a broad collar around the hind neck where it is lightly tinged with rufous; mantle Hazel; rump becoming much paler, near Cinnamon-Buff, but upper tail-coverts darkening on the longest feathers to near the color of the back. Lores light ochraceous on the upper portion, more whitish on the lower part; malar region and auriculars ochraceous-cinnamon; breast Cinnamon-Buff; throat paler; chin whitish; sides of breast and flanks about like malar region; belly broadly pale Pinkish Buff; under tail-coverts about like belly. Remiges dusky brown; outer webs of primaries near Sayal Brown, but on outermost primary the outer web is dusky with a very fine pale outer margin; secondaries with outer webs slightly lighter and more rufescent than the primaries; tertials with exposed portions near the color of the mantle but with paler and more ochraceous tips; primary-coverts dark brown with dull rufescent brown outer margins; upper wing-coverts much like the mantle but with poorly defined pale tips; the central portions of the greater series are somewhat darker but not in a sharply defined area; wing-lining deep Cinnamon-Buff. Median rectrices slightly darker than Hazel; succeeding ones similar but becoming somewhat paler toward the outer ones and with suggestions of pale tips. Maxilla (in dried skin) blackish, with paler tomia; mandible slaty; feet blackish. Wing, 69 mm.; tail, 49.5; exposed culmen, 12; culmen from base, 15.5; tarsus, 17.

REMARKS.—Males similar to the females but averaging somewhat larger and with the ninth (subexternal) primary modified as usual in the genus. Wing, 70.25–78 mm. (av. 75.9); tail, 48.5–56 (av. 52.7). Females measure: wing, 69–73 (av. 71.2); tail, 46–54 (av. 50.8).

The series of twenty-two birds is not entirely uniform. Occasional specimens are more warmly colored throughout than the average, with the back more strongly rufescent, the top of the head darker, and the under parts more strongly cinnamomeous, including the belly. Two males and a female from Rosarinho and a female from Igarapé Cacao Pereira, Rio Negro, are especially to be noted in this respect, suggesting *castaneus* to a greater or less extent; the top of the head, however, appears to be of a lighter hue and the gray of the supra-auriculars is paler and faintly olive-tinged.

Young birds are very decidedly paler than specimens of *castaneus* in similar plumage, and reach a greater extreme of pallidity than the adults, whereas young *castaneus* appear to be more deeply colored than adults of that form.

A single bird, without given sex but obviously an adult female, collected by Rusby and labeled as from La Paz, Bolivia, is as doubtful of identity as it is of locality. In coloration it agrees well with various specimens of *amazonus*, although the gray band above the auriculars is somewhat darker, but the size is large, even for males of the lower Amazonian form. It has a wing of 78 mm. and a tail of 56. The wing-measurement, therefore, is within the measurements of typical *castaneus* (which has a much longer tail, 61–66 mm., and much browner upper parts) while the tail-measurement comes within the range of variation in *saturatus* (51–56 mm.) which has a somewhat shorter wing (males, 73–77; females, 71.5–73.5). More material from northern Bolivia will be necessary to determine the correct affinities of this specimen, although it is hardly to be looked for at La Paz, but rather in the tropical lowlands to the northward. Apparently there is no record from anywhere on the Rio Madeira or its tributaries except near the confluence with the Amazon. On the other hand Hellmayr has recorded *saturatus* from Hyutanahan, which is some distance up the Rio Purús, suggesting the possibility that the Bolivian specimen may be from near the Falls of the Rio Madeira, not very distant from Hyutanahan.

Hellmayr likewise has assigned birds from Caviana and Manacapurú to *saturatus*. Caviana is not far distant from Rosarinho and Manacapurú is relatively near to Igarapé Cacao Pereira. Since several skins from Rosarinho and Igarapé Cacao Pereira show a tendency toward

saturatus, as mentioned above, the line of geographic separation between the two forms probably is not very sharply drawn.

Among the specimens examined for comparison is a male (wrongly labeled a female) from Baião, Rio Tocantins, Brazil, which furnishes a new limit of range in the species. This bird has the dark and dull dorsal coloration of typical *castaneus;* in fact it is dull even for that form, although the under parts approach *amazonus* in pallidness. The bill is at the maximum width for *castaneus* and within the limits of *amazonus*. The measurements agree much better with *amazonus* than with *castaneus* (wing, 77 mm.; tail, 55.5) since the tail is much shorter than any *castaneus* at hand except a single male from Bahia which has the same length of tail but an even shorter wing (72 mm.). The Bahia (Ituassú) bird also is slightly duller than skins of *castaneus* from farther south, and it is possible that there is a form from the region between Bahia and the Tapajoz which may be distinguished from both *castaneus* and *amazonus*. More material from this area is needed to decide this question.

Wied's specimens from eastern Brazil also are puzzling. The two skins from his collection are labeled male and female, respectively, but there is no trace of modification in the ninth primary of the supposed male and this specimen, which appears to be adult, probably is a female. There is no locality except "Brasilia" on the labels (the marked female has no original label), but since Wied's itinerary comprised only the territory between Rio and Bahia, it must be supposed that the birds came from somewhere in this area. Both are very small (wing, 64, 68 mm.; tail, 52, 51) and agree best with *amazonus* in this respect. The "♂" has the top of the head rather duller and browner than in *amazonus* and with the posterior margins of the crest-feathers quite distinctly outlined with buffy and, though it is pale (faded) beneath, it is not unlike some *castaneus* except in size. The "♀" is even paler below and in general coloration, as well as in size, is closer to *amazonus* but presumably belongs to the same form as the other Wied skin. Both birds have been marked as types (= cotypes) of "*Muscipeta aurantia* Wied," but since the name *aurantia* was quoted by Wied from earlier sources, the specimens are not even paratypes; they have no relation to the original *aurantia* which I take to be a synonym of *P. rufus* (q.v.).

Specimens Examined

P. c. castaneus.—Brazil: São Paulo, Itaituba, 1 ♀; Fazenda Cayoá, 3 ♂, 3 ♀; Paraná, Roca Nova, 1 ♀; Goyaz, Fazenda Esperanza, 1 ♀; Santa Catharina, Hansa, 1 ♀; Cerro Verde, 2 ♀; Espirito Santo, Baixo Grande, 1 ♀; Santa Barbara de

Caparão, 2 ♀; Minas Geraës, Serra do Caparão, 1 ♀; "Brazil," 1 ♀. PARAGUAY: Picado del Monte Caaguassú, 1 ♀; Belén, 1 ♀; La Fonciere, 1 ♀.

P. c. castaneus?—BRAZIL: (no locality), 1 "♂" (= ♀ ?), 1 ♀; Bahia, Ituassú, 1 "♂" (= ♀ ?); Rio Tocantins, 1 "♀" (= ♂).

P. c. amazonus.—BRAZIL: Rio Madeira, Rosarinho, 3 ♂, 7 ♀ (incl. type); Igarapé Auará, 2 ♀; Villa Bella Imperatríz, 2 ♂, 4 ♀; Rio Negro, Igarapé Cacao Pereira, 1 ♂, 2 ♀; Monte Alegre, Igarapé de Paituna, 1 ♂.

P. c. amazonus?—"BOLIVIA: La Paz," 1 ♀.

P. c. saturatus.—COLOMBIA: La Morelia, 1 (♂ ?) (type). PERÚ: Anayacu, 1 ♂, 1 ♀; Lopuna, 1 ♀. BRAZIL: Teffé, 1 ♂, 1 ♀.

P. c. intermedius.—VENEZUELA: Cumbre de Chiquitos, 1 ♂; San Estéban, 1 ♀; Quebrada Seca, Cumaná, 1 ♀; Cumaná, 3 ♂; Santa Ana Valley, 1 ♂, 3 ♀; La Montana de Guácharo, 1 ♀; Latal, 1 ♂; Río Neveri, 1 ♀; El Liman, 1 ♀.

Pachyramphus polychopterus niger (Spix)

Pachyrhynchus niger SPIX, 1825, 'Av. Bras.,' II, p. 33, Pl. XLV, fig. 1—no locality; "Amazonas prope Fonteboa" suggested by Berlepsch and Hartert, 1902; ♂; type lost.

Pachyrhamphus nigriventris SCLATER, 1857, P. Z. S. London, XXV, p. 76—new name for *Pachyrhynchus niger* SPIX; part; north Brazil.

In the absence of the type of *niger* there is considerable uncertainty regarding the use of that name. Spix described his bird as entirely black of body and his plate figures a bird answering this description. Specimens also agreeing with it are found in Perú north of the Marañón, in eastern Ecuador, and in extreme southeastern Colombia, but on the south bank of the Amazon, embracing the region of Fonteboa, which has been posthumously selected as type locality, the males of the *polychopterus* group all have noticeable gray on the belly or crissum and usually also on the rump. Only some seven or eight males out of over fifty show any great approach toward the really blackish birds of eastern Ecuador and its neighboring localities, and of these none reaches so black an extreme. If Spix were perfectly accurate in his description, there is doubt that his type could have come from near Fonteboa.

Nevertheless, in comparison with other races of *polychopterus*, all of these birds are dark and some of them could be described roughly as black, overlooking the grayish tone of the belly or other parts. The wings frequently lack all white on the outer margins of the secondaries and there is sometimes a small amount of white in that position on the blackest western examples. The type of *niger* may have been one of the darker Brazilian birds. Spix gave no locality for his bird and may have secured it either on the south bank or on the north at Tocantins or on the Yapurá, both of which were visited by Spix or Martius. Examination of the type is the only means by which Berlepsch and Hartert's

proposal of Fonteboa as type locality could be either substantiated or refuted and, since the type is lost, Fonteboa must be taken as type locality without further question, being a place known to have been visited by Spix and being the first restricted locality proposed by any subsequent reviser.

The very dark birds of the western area may, therefore, be named and described as follows.

Records assignable to *niger* are from La Merced and the "Upper Ucayali" (= Cashiboya).

Pachyramphus polychopterus tenebrosus, new subspecies

TYPE from Puerto Indiana, Perú, No. 230,370, American Museum of Natural History. Adult male collected June 17, 1926, by Carlos Olalla and sons.

DIAGNOSIS.—Similar to *P. p. niger* of central Brazil and adjacent regions, agreeing in the usual lack of all white markings on the scapulars and in the relatively dark coloration, but even more decidedly black; belly and rump without a definite grayish tone though upper and under tail-coverts may sometimes have a grayish or whitish admixture; white margins on outer webs of the remiges reduced or absent; under wing-coverts typically sooty, unmarked; inner margins of the remiges typically hardly paler than the rest of the web.

RANGE.—Northeastern Perú, north of the Marañón, and eastern Ecuador, extending (somewhat modified) northward into southeastern Colombia and southward across the Marañón into the region west of the Huallaga.

DESCRIPTION OF TYPE.—Top of head from forehead to nape glossy steel blue; lores and a broad superciliary duller black, with only slight bluish reflections; whole back and upper tail-coverts black, faintly glossy. Under parts entirely sooty black. Remiges black with a narrow whitish outer margin on the outermost primary; inner margins of remiges only slightly tinged with Mouse Gray. Greater upper wing-coverts black, with a small white speck at the tip of the outer web of the outer five or six feathers; median series with broader white tips; lesser series with faintly glossy bluish-black tips; under wing-coverts and axillars plain sooty black. Tail black, with white spots just short of the tips of the three outer pairs, largest on the outermost, quite small on the third pair. Bill (in dried skin) slaty black; feet black. Wing, 76 mm.; tail, 57; exposed culmen, 13; culmen from base, 15; tarsus, 17.

REMARKS.—Female not certainly separable from that of *niger* but apparently showing the maximum amount of brownish coloration on the top of the head and mantle.

A topotype has very slight whitish tips on some of the abdominal feathers, grayish-white vermiculations on the under tail-coverts, faint grayish tips on the upper wing-coverts, some grayish or whitish marks on the under wing-coverts, and white lines on parts of the outer margins of the secondaries, with broader white tips on the greater upper wing-coverts.

A male from the mouth of the Curaray is very like the type, with a

slightly gray tinge on the under tail-coverts. Another male from the same locality is not so deeply black on the belly as the type and most of the other specimens, but has an inconspicuous grayish tinge that is still far from the definite gray of *niger*.

Two males from Río Seco, west of Moyobamba, are nearer to *tenebrosus* than to *niger*, having the upper and under parts of the body equally black, although one has some gray and the other some white admixture on the under tail-coverts and under wing-coverts, and both have some whitish mottling on the inner margins of the remiges and a white margin on the outer secondary. A male from La Morelia, Colombia, is similarly varied, with the addition of slight whitish margins on more than the outermost secondary. A male from Florencia, Colombia, shows a slightly greater approach toward *niger* but remains still closer to *tenebrosus* and is quite different from several specimens of *niger* taken east of Bogotá.

The type is the only specimen lacking white at the tips of the fourth pair of rectrices (from the outside). The others are variable in this respect, as are the various specimens of *niger*, some of them having only a small speck at the tip of the fourth pair; some have traces even on the median pair.

Some males of *niger* have no white on the outer margins of the remiges (except the outermost primary), although usually there is a marked amount; the primaries (except the outermost) appear never to have more than a suggestion of whitish on the outer web. Although at its extreme development in *tenebrosus*, therefore, the uniformity of color on the outer margins of the remiges is not of particular value as a taxonomic character.

Taczanowski commented on a male from Yurimaguas as being more nearly uniform black than any other specimen he had seen, which would include a male from Tarapoto, on the same side of the Huallaga as Yurimaguas. A male from Yurimaguas, now in Field Museum of Natural History, Chicago, is marked with some gray on the lower belly and rump, like a male of *niger* from Puerto Bermúdez, Río Pichis. The region between the Huallaga and the middle Marañón is occupied, therefore, by birds of an intermediate character, being the meeting ground of *niger* and *tenebrosus*. For the present I include it in the range of *tenebrosus*.

Records assignable to *tenebrosus* are from Nauta, Pebas, and Tarapoto.

A young male and a female from southeastern Perú are indetermi-

nable as to subspecies, as is a young male from the "Lower Beni," Bolivia. Specimens from the Province of Sara, Bolivia, belong to *spixii*, but it is probable that the Beni specimen and the southeast-Peruvian birds belong to the Rio Madeira form which is *niger*. This form extends as far east as Villa Bella Imperatríz, on the south bank of the Amazon, and follows up the right bank of the Rio Negro, north of the Amazon, apparently for the entire course of the Negro and crosses westward to the base of the Andes in Colombia just east of Bogotá. Villavicencio and Buena Vista specimens show the slightly grayish belly of this middle Amazonian form, but La Morelia and Florencia skins are of the more purely black east-Ecuadorian sort. In the same way, two males from Playa del Río Base and Caño Seco, Mt. Duida, are like the middle Amazonian form, but three young males and a female from Lalaja and the mouth of the Río Ocamo, on the Río Orinoco near the foot of Mt. Duida, are more like the still paler *tristis*.

Sixty-one adult or nearly adult males from the Orinoco, northern Venezuela, Trinidad, Tobago, the three Guianas, and Brazil near the lower Amazon, at Monte Alegre, Rio Maecurú, and Marajó Island, agree in distinction from *niger* by their paler gray under parts and especially by the strong development of white on the tips of the outer scapulars, usually totally lacking in *niger* or, if present, only slightly developed. There also is a greater amount of white on the tips of the upper wing-coverts and along the outer margins of the secondaries. Contrary to what might be expected, two males from Faro, Brazil, lack this white area and, in addition, are much darker beneath than the Monte Alegre, Rio Maecurú, and Marajo males. The Faro specimens, on this evidence, must be referred to *niger*.

There also is confusion in the arrangement of the series from the south bank of the lower Amazon. Hellmayr has referred eight specimens (of both sexes ?) from Santarem to the northern form, *tristis*. I have one adult male from Santarem, six adult males from the Tapajoz and Xingú, two from northern Maranhão (Miritiba and Rosario), one from Piauhy (Floriano), and four from Bahia beside the type of *polychopterus*. Granting that the type of *polychopterus* represents the Bahian form (which I shall discuss below), there is good agreement among the other males and I have no hesitation in extending the range of this form as far west and north as the left bank of the Tapajoz. These males are all markedly paler than *tristis*, with more white on the lores of some examples, and in broad characteristics resemble the distantly related *P. marginatus nanus*, especially in depth of color. In fact, a male from

Boim, secured from Madame Snethlage, was named by her, "*Pachyrhamphus marginatus.*"

Whether the type of *polychopterus* belongs here or with the more southern "*spixii*" must remain questionable. Previous students have assigned the name to the Bahian form, but it is rather closer to "*spixii.*" The sides of the head are decidedly blackish as in the southern birds and not so grayish as in the average of the series from Bahia to the Tapajoz, and the general tone of the under parts, now affected by post-mortem change, seems more likely to have faded from a darker hue than to have darkened from a paler one. The size is large for Bahian birds but small for the average of the southern subspecies. Nevertheless, it is not impossible that the type represents a dark example of the Bahian form, altered by age, and without proof to the contrary the name may be left as it is now established.

Turning to the Central American representatives of the species, I can find little to justify the recognition of "*similis.*" Specimens from Costa Rica, Guatemala, and Nicaragua show an average broader bill than Santa Martan skins of *cinereiventris*, but the difference is not constant and is not supported by other characters of size or color. Panamanian specimens are equally variable. Griscom (1935, Bull. Mus. Comp. Zoöl., LXXVIII, p. 345) has dropped the name *similis* entirely, and I have reached the same conclusions as to its validity.

A disturbing specimen is a male collected at Lion Hill, Panamá, by McLeannan and Galbraith, referred by Ridgway to *dorsalis*, and finally placed under "*similis*" by Hellmayr. This specimen is in nearly adult plumage, except for the primaries and outer secondaries, several tail-feathers, and a few olive-tinged feathers on the uropygium (which may be first annual and not juvenal). Its general coloration is exactly that of *dorsalis* and there is no match for it among over forty males of *cinereiventris*. A male from El Villano, southeast of Santiago, Veraguas, shows an approach in pale ventral coloration, but the skin is in imperfect condition and inconclusive. More material is needed from Panamá.

Bangs and Penard (1921, Bull. Mus. Comp. Zoöl., LXIV, p. 388) called attention to the possibility of dichromatic phases in this species. The extensive series examined in the course of the present study have borne out this supposition. The authors mentioned found immature males molting into the dark extremes of adult plumage, and others from the same region changing into a lighter-hued dress, while there were fully molted examples in each extreme of pigmentation. I have at hand

material demonstrating these various points and also certain specimens in both extremes or "phases" which are renewing a plumage of the same sort. At first glance, the lighter-hued examples of the various subspecies appear to be immature and, in fact, the majority of specimens of this sort are immature, showing traces of juvenility somewhere, either in the plumage (especially in the wings, where the modified ninth primary is one of the last adult characters to be acquired) or in the bill, where the pale mandible is sometimes retained for a time after all the plumage has been renewed. Nevertheless, certain specimens are in molt from this pale dress into another equally pale, showing that it is not ascribable to delayed maturity so much as to individual variation.

On the other hand, some skins which show by the modified ninth primary that they are in adult (first or otherwise) plumage, have retained an olive tone of coloration on the rump or elsewhere, and there is reason to suspect that this tendency is continued beyond the first annual plumage. Furthermore, some adult females are unusually dark, even showing metallic reflections of a bluish cast on the top of the head although the general pattern is feminine. One young bird, sexed as a male, is in very fresh juvenal plumage, with no molt in progress, has a small cluster of adult masculine crest feathers on the right side of the occiput; the left side is equally fresh but normally juvenal as are the remiges.

Young of both sexes normally may be distinguished from adult females by the lack of the somewhat scaly tips on the feathers of the top of the head, brown in the adult female, steely blue in the adult male. Differences between the sexes of the young birds are not constant. The wings of the young males often have a blacker coloration, with a lighter tint of rufous on the tips of the upper wing-coverts, even sometimes inclined to whitish buff, and the small coverts at the radial margin may be more often only narrowly tipped with brown, allowing the blackish subterminal areas to be more or less exposed. Some females, however, recognizable by their continuing molt into similar female plumage, are like the young males in the paleness of wing-bars and the other characters mentioned.

Young males, molting from juvenal olive into the dark gray and black of the adult plumage, usually have the mandible very pale as in adult females, while young females, as a rule, have the mandible darker. Very young birds of both sexes, in which the bill is small and undeveloped, have this member quite black or with traces of paler color.

Specimens Examined

P. p. polychopterus.—Brazil: (no locality), 1 ♂ (type); Bahia, 5 ♂, 2 ♀; Piauhy, Floriano, 1 ♂; Maranhão, Miritiba, 1 ♂; Rosario, 1 ♂; Rio Tocantins, Arumatheua, 1 ♀; Baião, 2 ♀; Rio Xingú, Tapará, 3 ♂; Porto de Moz, 2 ♀; Rio Tapajoz, Boim, 1 ♂; Santarem, 1 ♂; Igarapé Brabo, 1 ♂, 1 ♀; Igarapé Amorín, 1 ♂; Piquiatuba, 1 ♂.

P. p. spixii.—Brazil: "Rio," 1 ♂, 1 ♀; Bemfica, Serra de Itatiaya, 1 ♀; São Paulo, Ubatuba, 1 ♂; São Sebastião, 1 ♀; Matto Grosso, Urucum, 6 ♂, 1 ♀; Belvedere de Urucum, 1 ♂, 2 ♀; Agua Blanca de Corumbá, 1 ♂; Descalvados, 1 ♂; Chapada, 3 ♂, 1 ♀; (no locality), 1 ♀. Paraguay: Río Negro, 2 ♂; 1 ♀; Trinidad, 1 ♂. Argentina: Barracas al Sud, 2 ♂, 1 ♀; Ocampo, 2 ♂, 1 ♀; La Plata, 1 ♂; Perico, 1 ♀. Bolivia: Province Sara, 2 ♂; Yungas Cochabamba, 1 ♀.

P. p. niger.—Brazil: Rio Amazonas, Villa Bella Imperatríz, 6 ♂, 4 ♀; Teffé, 1 ♀; Rio Madeira, Borba, 1 ♀; Igarapé Auará, 14 ♂, 8 ♀; Rosarinho, 10 ♂, 7 ♀; Santo Antonio de Guajará, 8 ♂, 4 ♀; Porto Velho, 1 ♂; Calamá, 2 ♂; Humaythá, 3 ♂; Rio Negro, Igarapé Cacao Pereira, 6 ♂, 3 ♀; Faro, 2 ♂. Venezuela: Mt. Duida, Playa del Río Base, 2 ♂, 1 ♀; Caño Seco, 1 ♂. Colombia: Villavicencio, 2 ♂, 1 ♀; Buena Vista, 2 ♂. Perú: Santa Rosa, 5 ♂, 1 ♀; Sarayacu, 1 ♂; Lagarto, 1 ♀; Río Colorado, Chanchamayo, 1 ♂[1]; Huachipa, 1 ♂[1], 1 ♀[1]; Río Tavara, 1 ♂; Astillero, 1 ♀. Bolivia: "Lower Beni," 1 ♂.

P. p. tenebrosus.—Perú: Río Seco, 2 ♂; Yurimaguas, 1 ♂; Puerto Indiana, 2 ♂ (incl. type), 2 ♀; Anayacu, 1 ♀. Ecuador: "Napo," 1 ♂; Archidona, 1 ♂, 1 ♀; mouth of Río Curaray, 3 ♂. Colombia: La Morelia, 1 ♂; Florencia, 1 ♂.

P. p. tristis.—French Guiana: Cayenne, 9 ♂, 1 ♀. Dutch Guiana: Paramaribo, 2 ♂. British Guiana: Annai, 2 ♂; Rupununi River, 1 ♂. Brazil: Frechal, Rio Surumú, 3 ♂, 3 ♀; Rio Maecurú, 1 ♂; Monte Alegre, 1 ♂; Fazenda Teso, Marajó, 1 ♂. Venezuela: Paulo, Mt. Roraima, 1 ♀; San Antonio, Bermúdez, 1 ♂; Las Trincheras, Carabobo, 4 ♀; Cristóbal Colón, 1 ♂; Cumanacoa, 1 ♂, 1 ♀; Rincón San Antonio, Cumaná, 2 ♂; Quebrada Seca, 1 ♂; San Estéban, 3 ♂; El Pilar, 1 ♂; Caicara, 7 ♂, 1 ♀; Ciudád Bolívar, 2 ♂; Agua Salada de Ciudád Bolívar, 1 ♂, 1 ♀; Suapure, 3 ♂, 1 ♀; Altagracia, 1 ♂; Perico, 3 ♂; Maipures, 2 ♂, 1 ♀; Quiribana de Caicara, 1 ♀; La Pricián, 1 ♂, 2 ♀; Las Barrancas, 2 ♂; Mérida, 1 ♂; Río Orinoco, mouth of Río Ocamo, 2 ♂, 1 ♀; Lalaja, 1 ♂, 1 ♀; "Venezuela," 1 ♂. Trinidad: Pointe Gourde, 1 ♂; Caparo, 2 ♂; Princestown, 6 ♂, 3 ♀; Carenage, 1 ♂. Tobago: Castare, 2 ♂, 1 ♀; Gecito, 2 ♂; Mariah, 1 ♂; Sandieh Point, 1 ♂; Mondiland, 1 ♂. Colombia: "Bogotá," 3 ♂, 4 ♀, 1 (?).

P. p. dorsalis.—Colombia: "Bogotá," 1 ♂; Río Barratón, 1 ♂; Río Cali, 1 ♂; Aguadita, 2 ♂, 1 ♀; San Antonio, 1 ♂; Ricaurte, 2 ♂, 1 ♀. Ecuador: Paramba, 1 ♂.

P. p. cinereiventris.—Colombia: Santa Marta, Bonda, 11 ♂, 7 ♀; "Saint Martha," 1 ♂. Panamá: El Real, Río Tuyra, 1 ♂, 2 ♀; (Lion Hill), 1 ♂ (near *dorsalis*); Tocumé, 1 ♀; Río Chiman, 1 ♂; El Villano, 6 ♂, 2 ♀; La Colorada, 1 ♂; Agua Dulce, Coclé, 1 ♂; El Banco, Chiriquí, 1 ♂; Boquete, 1 ♂; Chiriquí, 1 ♂; Bogava, 1 ♀; Almirante, 4 ♂, 4 ♀. Costa Rica: El Pozo, Río Terraba, 1 ♂; Buenos Aires, 3 ♂, 1 ♀; Puerto Jiménez, 2 ♂; Las Cañas, 1 ♂; Bonilla, 2 ♂; Bebedero, 2 ♂,

[1] Specimens in Field Museum of Natural History, Chicago.

2 ♀; Limón, 1 ♂, 2 ♀; Juan Viñas, 1 ♂; Miravalles, 1 ♂, 1 ♀; Pozo Azul, 1 ♂. NICARAGUA: Volcan de Chinandegua, 3 ♂, 1 ♀; Chontales, 1 ♂; San Francisco, 1 ♂; Muy Muy, 1 ♂; Uluce, 1 ♂; Matagalpa, 1 ♂. GUATEMALA: Alta Vera Paz, 1 ♂; Chimoxan, 1 ♂; "Guatemala," 1 ♂.

Pachyramphus albogriseus salvini Richmond

Pachyrhamphus similis SALVIN (nec CHERRIE, 1891), 1895, Novit. Zool., II, p. 13—Chusgon, Perú; ♂; British Mus.

Pachyrhamphus salvini RICHMOND, 1899, Auk, XVI, p. 186—new name for *Pachyrhamphus similis* CHERRIE.

A character of considerable value in the separation of *salvini* is found in a strong white border on the outer margin of the alula in the adult males and a similar marginal line of buff or cinnamon in the females and young males. Occasionally this is reduced in prominence, but all but a few of the specimens, including fourteen examples from Ecuador, have it well developed. It is lacking in most of the specimens of *albogriseus* and *ornatus*. The black loral spot of *ornatus* is reduced to a less conspicuous dusky mark (as in *albogriseus*), sometimes nearly obsolete. The basal two-thirds of the median rectrices is gray, as in *ornatus*. Skins from the region of Guayaquil, Isla de Puna, Chimbo, and Punta Santa Ana, Ecuador, not only are smaller than the Peruvian birds but have the submedian rectrices also definitely gray on the inner webs for about two-thirds of the distance from the base, and may be recognized as a distinct form, described hereunder. A male from Paletillas, Perú, is not distinguishable in size from the other Peruvian birds and, although the tail is in molt, the rectricial characters appear to be those of *salvini*, so far as may be determined.

The most interesting specimens are two from Lomo Santo, south of Jaen. One of these, an adult male, has only three outer rectrices on one side and lacks all the others. It has an exceptionally large bill and long wings and legs; the dark loral spot is large and quite blackish; the outer margin of the alula is not white but uniform with the rest of the feather; the black of the wings and tail is deep; the white of the upper part of the lores and the forehead is relatively pure (where not stained), not grayish; and the hind neck is encircled by a pale gray collar, rather well defined. The other specimen is a young male with exceptionally dark chestnut-brown crown, heavy black loral spot, and a pale olive-gray collar on the hind neck.

These characters match those of *ornatus* of Central America, although the Lomo Santo adult is larger than my measurements for *ornatus*, having the wing 77.5 mm. as against 74 and 75 mm. for a Costa Rican and

a Panamanian male, respectively. The young Lomo Santo male has considerably more white on the throat and sides of the head than a young male of *ornatus* from Boqueron, Panamá, but I am not certain as to the value of this feature; adult males of *ornatus* have the upper part of the auriculars whiter than males of *salvini*, in which particular the Lomo Santo adult again agrees with *ornatus*.

Lomo Santo is in the general region of Jaen, apparently in the hills south of that town, at a higher elevation (5000 feet). Two males and a female from Jaen are typical *salvini*. The probability that two distinct forms occur so close together is very slight, especially since *salvini* ranges at least from 1550 feet (Paletillas) to 8500 feet (Chusgon). The two Lomo Santo specimens apparently must, therefore, be considered as very unusual examples of individual variation within *salvini*.

Taczanowski's record of two females from Lechugal, Perú, are difficult to assign without knowledge of their measurements. Lechugal is in the drainage basin of the Gulf of Guayaquil and the resident form of *albogriseus* might be expected to be the new form described below were it not that the male at hand from Paletillas, not far from Lechugal, is *salvini*. Until more material from the Tumbez region is available, the Lechugal birds must be assigned to *salvini*.

Pachyramphus albogriseus guayaquilensis, new subspecies

TYPE from Chimbo, western Ecuador, altitude 1000 feet. No. 494,160, American Museum of Natural History (Rothschild Collection). Adult male collected August 21, 1897, by W. F. H. Rosenberg; original No. 758.

DIAGNOSIS.—Similar to *P. a. salvini* of northern Perú but somewhat smaller; tail of males with more gray, the subexternal pair of rectrices having the basal two-thirds definitely gray or grayish on both webs. Females not certainly distinguishable except by smaller size.

RANGE.—Western Ecuador in the Tropical Zone surrounding the Gulf of Guayaquil; probably extreme northern Perú in the same habitat.

DESCRIPTION OF TYPE.—Forehead narrowly grayish white, the posterior feathers like the crown; crown and nape glossed with steel blue; a blackish band commencing near the upper posterior border of the orbit and passing around the occiput, in part slightly glossy and not sharply defined from the general color of the pileum; hind neck gray, with slight traces of dusky in the central part; back and upper tail-coverts near Deep Gull Gray. Lores whitish, with an inconspicuous dusky anteocular spot formed largely by blackish bristly tips on the feathers; eyelids whitish; malar region and auriculars pale gray, much paler than the back; chin and throat still more whitish; breast and sides tinged with gray; belly and under tail-coverts whitish; flanks pale gray. Remiges blackish, narrowly margined with white, which is broader on the secondaries and tertials, but outer webs of tertials otherwise largely pale gray. Primary coverts similar; greater upper wing-coverts blackish, with outer margins rather broadly white; median coverts with tips white; lesser coverts with gray tips

becoming whiter on the larger feathers; alula black with white outer margin; inner margins of remiges broadly white; under wing-coverts white except for a dark patch on the under primary-coverts. Tail with median rectrices gray for most of their length, having a large subterminal blackish spot and a small white tip; subexternal pair similarly gray for two-thirds of the basal length, the terminal white very little broader than on the median pair; third pair with a basal gray area and a longer extension of gray along the outer margin and with the white tip still broader; remaining rectrices largely blackish with successively broader white tips extended on the outer web of the outermost pair more than half way to the base. Bill (in dried skin) slaty; feet blackish brown. Wing, 67.5 mm.; tail, 47; exposed culmen, 12; culmen from base, 14.5; tarsus, 17.5. In life: "Iris brown; feet bluish-gray, soles yellowish; bill pale blue, extreme tip of maxilla black" (W. F. H. Rosenberg).

REMARKS.—Females like those of *salvini* but smaller. Wing, 64–66 mm.; tail, 47–48; exposed culmen, 10.5–11.5; culmen from base, 14–15; tarsus, 17–18.

The males vary as follows: wing, 66–68.5 mm.; tail, 47–54; exposed culmen, 11–12; culmen from base, 13–14.5; tarsus, 17.25–17.5. Only one specimen has so long a tail as 54 mm.; the next in size is 48. The large bird is from Punta Santa Ana, nearest geographically to the range of *salvini* to whose measurements this specimen may show an approach.

The small size of the Chimbo bird and of a female from San Javier were noted by Hellmayr [1929, Field Mus. Nat. Hist., Publ., Zool. Ser., XIII (6), p. 190, footnote 2]. This characteristic, together with the others noted above, is similarly shown by the birds from the limited area in the Guayaquil basin of western Ecuador but not by other Ecuadorian skins, including a young male from northwestern Ecuador (Mindo). The Mindo specimen is large (wing, 72 mm.), but without definite differences being known for females and young of *salvini* and *guayaquilensis*, the measurement is the only criterion by which this specimen may be assigned to one or the other.

Two females, labeled as collected by Goodfellow and Hamilton at Archidona, have been questioned as to locality by Hellmayr, but they agree with the measurements of *salvini* and are larger than *guayaquilensis* and may have come from Archidona as stated. A male from the Río Oyacachi, not far from Archidona, belongs to *salvini*.

More Santa Martan material should be examined when possible. The single female at hand from that region has a much darker pileum than Central American skins of *ornatus* which it otherwise resembles.

SPECIMENS EXAMINED

P. a. albogriseus.—VENEZUELA: Mérida, 1 ♂; Cumaná, 1 ♂; Santa Ana Valley, Cumaná, 1 ♂; Cumbre de Valencia, 1 ♂; inland of Puerto Cabello, 1 ♀; Los Palmales, 1 ♀; Río Neveri, 1 ♀.

P. a. ornatus.—Costa Rica: Navarro, 1 ♂; Bonilla, 1 ♀; (no other locality), 1 ♀. Panamá: Boquete, Chiriquí, 1 ♂; Boqueron, 1 ♂, 1 ♀; Cerro Flores, 1 ♂, 1 ♀; Chitrá, 1 ♂. Colombia: Valparaiso, Santa Marta, 1 ♀.

P. a. guayaquilensis.—Ecuador: Chimbo, 1 ♂ (type); Guayaquil, 1 ♂; Isla Puna, 2 ♂; Punta Santa Ana, 1 ♂; Chongocito, 1 ♀; Daule, 1 ♀; San Javier, 1 ♀.

P. a. salvini.—Perú: Chusgon, 1 ♀; Viña, 2 ♂, 1 ♀; Malca, 1 ♂, 1 ♀; (northern Perú, ex Baron, wrongly labeled "Archidona, Ecuador, Goodfellow and Hamilton"), 1 ♂; Jaen, 2 ♂, 1 ♀; Huarandosa, 2 ♂; Perico, 4 ♂, 1 ♀; Paletillas, 1 ♂; Lomo Santo, 2 ♂ (not typical). Ecuador: Zamora, 2 ♂; Mindo, 1 ♂; Río Oyacachi, 1 ♂; "Archidona," 2 ♀.

Platypsaris rufus audax (Cabanis)

Hadrostomus audax Cabanis, 1873, Jour. für Orn., XXI, p. 68—Monterico, Perú; ♂; Warsaw Mus.

There are but three records from Perú, the type from Monterico, a young male from Casinchihua, and a young male, now before me, from the Urubamba Valley, between Torontoy and San Miguel. I am unable to dispute or verify the assignment of Bolivian and northwestern Argentine specimens to the Peruvian form.

An item of unusual interest is the presence in the Museum collections of an adult female of this species from Mocajuba, Rio Tocantins, accompanied by a female from Fazenda Teso, San José, Isla Marajó, and another from Pará. The two last-mentioned birds were identified by Dr. E. Snethlage as *Platypsaris minor* and so recorded by her. Possibly other of her records of *minor* (females) are based on misidentifications. Perhaps, also, Pelzeln's two birds from Pará, which have been variously identified as *minor* and *rufus* are really *rufus*.

In any case, the three birds at hand show a somewhat greater extension of range for the species than has been accepted heretofore. There are no records from the state of Maranhão (unless Dr. Snethlage's record of *minor* from Tury-Assú belongs here), but the connection between the Pará district and northern Piauhy should eventually be found to cross Maranhão.

Specimens Examined

P. r. rufus.—Paraguay: Trinidad, 3 ♂, 2 ♀; "Paraguay," 1 ♀. Brazil: São Paulo, Campinas, 1 ♂; Fazenda Cayoá, 3 ♂, 1 ♀; Ypanema, 1 ♀; Itapura, 1 ♀; Itatuba, 1 ♂; "Ceara," 1 ♂; "Bahia," 3 ♂, 2 ♀; Matto Grosso, Chapada, 8 ♂, 5 ♀; Pará, 1 ♀; Fazenda Teso, San José, Isla Marajó, 1 ♀; Rio Tocantins, Mocajuba, 1 ♀. Argentina: Ocampo, 4 ♂; Mocoi, 1 ♀.

P. r. audax.—Perú: Urubamba Cañon, half way between Torontoy and San Miguel, 1 ♂. Argentina: Tucuman, 2 ♂; Las Cuchillas, 1 ♂, 1 ♀; La Hayada, 1 ♂, 1 ♀; Tafi Viejo, 1 ♂.

Tityra semifasciata fortis Berlepsch and Stolzmann

Tityra semifasciata fortis Berlepsch and Stolzmann, 1896, P. Z. S. London, p. 369—La Gloria and La Merced, Perú; ♂ type from La Gloria in Warsaw Mus.

A comparative study of one hundred and twenty-six specimens of this species from the Amazonian basin has led to a new concept of the typical form and *fortis*. As is indicated by the name, *fortis* was originally separated from *semifasciata* principally because of supposed greater size, with apparently more restricted white on the inner web of the external rectrices and possibly a little more grayish tone on the under parts.

The series now at hand does not permit perfect division on these criteria nor, in fact, on any others, although there is at least one other character which is of great utility in distinguishing the two subspecies. In typical *semifasciata*, the males have the maxilla noticeably dark or even blackish for about the terminal two-thirds, often quite sharply defined from the paler base. In *fortis*, the maxilla of the males is almost entirely pale except for a very small blackish tip, and even this tip is sometimes lacking. (One male from Villa Bella Imperatríz has only the tip of the maxilla blackish, but this is an exception.) In the females of both forms, the maxilla is dark except for a basal area. The mandible is pale, without dark tip, in both sexes of both forms.

The white on the inner web of the outermost rectrices of the males is variable in both subspecies, but in *semifasciata* it is more often than not of maximum extent, commonly occupying the whole inner web of these feathers. In *fortis*, the white tip is usually quite separated from the white base by a broad blackish subterminal band. Some examples of both forms have a narrow white stripe either along the shaft or along the outer margin of the inner web, connecting the two larger white areas. Occasionally certain specimens show the tail-characters of the form other than the one to which they appear to belong.

There appears to be no valid distinction on the basis of more pronounced grayness of the under parts in *fortis*, suggested by Berlepsch and Stolzmann. I am unable also to find any definite differences in the size of the bill in the two forms. The length of wing and tail average greater in *fortis* than in *semifasciata*, but there is no sharp separation on these measurements. Arranging the specimens according to the evidence provided by various taxonomic characters and a consideration of geographical probabilities, the measurements appear as follows: *semifasciata*, ♂, wing, 110–124 mm.; tail, 62–77; *fortis*, ♂, wing, 119–136; tail, 69.5–80.5; *semifasciata*, ♀, wing, 109–121; tail 60.5–69;

fortis, ♀, wing, 117–131; tail 70–80.5. I have included in these measurements the figures given for the types of *semifasciata* and *fortis*.

This leaves out of consideration the birds from central Matto Grosso (Chapada) and the Rio Tapajoz where a condition occurs that is most unsatisfactory from a taxonomic point of view. The tail and bill are as in *semifasciata*, with some approach toward *fortis* in the Matto Grosso series, but the size is intermediate, approaching *fortis* more closely, even on the lower Tapajoz: ♂, wing, 120–127.5; tail, 72–76.5; ♀, wing, 114–121; tail, 68–73. If these birds are placed with *fortis* because of size, the range of that form will have a curious extension from the Matto Grosso highlands down the Tapajoz, dividing the range of *semifasciata* on the south bank of the lower Amazon. If they are placed with *semifasciata* because of the bill and tail, the measurements of that subspecies must be expanded to include the larger figures supplied by these birds. This appears to be the more satisfactory course, especially since the character of the bill is the most stable of all the various differences between the two subspecies.

Skins from Teffé are of only average *semifasciata* size, but the bill occasionally shows a tendency toward that of *fortis* and the tail is nearer the average of *fortis* in the amount of white on the outer rectrices. A single skin from Orosa, Perú, is the smallest in the series of *fortis*, but the bill and tail are typical of that form. East-Ecuadorian and southeast-Colombian specimens, heretofore referred to *semifasciata*, agree with the Peruvian birds and undoubtedly belong to *fortis* by all characteristics.

The range of *fortis* thus appears to embrace the eastern face of the Andes in southeastern Colombia, eastern Ecuador, eastern Perú (throughout the length of the country), and northern Bolivia. Possibly western Brazil, on the upper Amazon, will be found to belong here also.

Several facts have appeared in a comparative study of the other forms of the species. Thus, while *columbiana* is recorded from Mt. Sapo, southeastern Panamá, a male at hand from Tacarcuna is certainly *costaricensis*, to which several specimens from the Canal Zone (Lion Hill) also belong. To the northward, in Nicaragua, a male from León and a female from San Francisco, Río San Juan, east of San Carlos, also belong to *costaricensis* which is said to range still farther north to the Honduras boundary (Río Segovia), but five males and two females from Matagalpa, San Rafael del Norte, Savana Grande, and Volcan Viejo are rather definitely *personata* of eastern Mexico and Guatemala. The range of *personata*, therefore, should be noted as extending south into north-central Nicaragua.

A specimen of *nigriceps*, closely matching the type, is in the Rothschild collection from Santo Domingo, northwestern Ecuador. This and the type are pronouncedly different from the Esmeraldas skins at hand, including the type of *esmeraldae*, but a male from San Miguel, only a few miles from Santo Domingo, is quite like the Esmeraldas skins, showing that *nigriceps* and *esmeraldae* must be synonymous. Unfortunately the older name is based on the abnormal variant.

Peruvian records of *fortis*, including those previously assigned to *semifasciata*, are from Iquitos, Yurimaguas, Shanusi, Elvira, Jeberos, Huambo, Pisana, Monterico, "Río Ucayali," Chaquimayo, Carabaya, La Gloria, La Merced, and "Eastern Perú, forest-region" (Tschudi).

A specimen (dealer's skin from H. Whitely) is at hand, labeled "Perú," but it is a close match for various specimens of *costaricensis* from Panamá which may be its actual country of origin. It is totally unlike any Peruvian specimens I have seen.

Specimens Examined

T. s. semifasciata.—Brazil: Rio Xingú, Villarinho do Monte, 1 ♀; Rio Tapajoz, Igarapé Brabo, 4 ♂, 4 ♀; Igarapé Amorin, 2 ♂, 2 ♀, 1 (?); Caxiricatuba, 2 ♀; Rio Amazonas, Villa Bella Imperatríz, 4 ♂, 7 ♀; Rio Madeira, Borba, 2 ♂, 3 ♀; Igarapé Auará, 7 ♂, 3 ♀; Santo Antonio de Guajará, 1 ♂, 1 ♀; Rosarinho, 9 ♂, 5 ♀; Porto Velho, 3 ♂, 2♂,[1] 1 ♀[1]; Calamá, 1 ♂; Alliança, 1 ♂; Rio Juruena, Juruena, 1 ♀; Teffé, 3 ♂, 2 ♀; Chapada, Matto Grosso, 6 ♂, 2 ♀; Tapirapoan, 1 ♀; Rio Negro, Igarapé Cacao Pereira, 5 ♂, 4 ♀; Faro, 4 ♂, 4 ♀; Monte Alegre, 1 ♂.

T. s. fortis.—Bolivia: Todos Santos, 1 ♂, 1 ♀; Reyes, 1 ♀; mouth of Río San Antonio, 2 ♀; Cerro Hosane, Sta. Cruz, 1 ♂[1]; Province of Sara, 1 ♂, 1 ♀. Perú: Perené, 2 ♀; Río Ucayali, Santa Rosa, 1 ♀; Pozuzo, 2 ♀; Huachipa, 1 ♂[1]; Orosa, 1 ♂; Anayacu, 1 ♂; Puerto Indiana, 1 ♂, 1 ♀; Uchco, 1 ♂. Ecuador: Río Suno above Avila, 1 ♂; Macas region, 2 ♂, 1 (?); "Napo," 1 ♂; Río Suno, 1 ♂. Colombia: "Bogotá," 1 ♂, 1 ♀; Buena Vista, above Villavicencio, 1 ♀.

T. s. nigriceps.—Ecuador: "Napo" (= probably near Gualea?), 1 ♂ (type); Santo Domingo, 1 ♂; Esmeraldas, 4 ♂ (incl. type of *esmeraldae*), 2 ♀; Chone, 1 ♂; Carondelet, 1 ♂; Paramba, 1 ♂; Pambilar, 1 ♀; San Miguel, 1 ♂. Colombia: Barbacoas, 1 ♀; Yuntas, 1 ♂.

T. s. columbiana.—Colombia: Santa Marta, Valparaiso, 2 ♂, 1 ♀; Minca, 1 ♂, 2 ♀; Cacagualito, 1 ♀; Río Cauca, Puerto Valdivia, 2 ♂, 1 ♀; Dabeiba, 1 ♂; Río Chilé, 1 ♂; Noanamá, 1 ♂. Venezuela: Cumbre de Valencia, 1 ♀.

T. s. costaricensis.—Panamá: Tapalisa, 1 ♂; (Lion Hill), 2 ♂, 1 ♀. Costa Rica: (various localities), 17 ♂, 4 ♀. "Perú" (errore = Panamá ?), 1 ♂. Nicaragua: León, 1 ♂; San Francisco, Río San Juan, 1 ♀.

T. s. personata.—Nicaragua: Matagalpa, 1 ♂, 1 ♀; San Rafael del Norte, 3 ♂; Savana Grande, 1 ♂; Volcan Viejo, 1 ♀. Guatemala: (various localities), 19 ♂, 24 ♀. Mexico: Río Givicia, Oaxaca, 3 ♂, 1 ♀; Jalapa, 2 ♂; Santa Efigenia, Tehuantepec, 1 ♂; Tampico, Tamaulipas, 2 ♂.

[1] Specimens in Field Museum of Natural History, Chicago.

T. s. griseiceps.—Mexico: (western localities in Jalisco, Tepic, and Sinaloa) 15 ♂, 12 ♀.

T. s. deses.—Mexico: "Yucatan," 2 ♂; Chichen Itza, 2 ♂, 2 ♀.

Tityra inquisitor albitorques Dubus

Tityra albitorques Dubus, 1847, Bull. Ac. Roy. Belg., XIV, pt. 2, p. 104—Perú.

I have no Peruvian material of this species. Apparently there are but four specimens from this country on record—the type, a male from "Perú" in the Halberstadt Museum, a male from Chayavitas in the British Museum, and a female from Yurimaguas in the Warsaw Museum.

Hellmayr has examined the male from Chayavitas and reports it as indistinguishable from specimens taken in western Ecuador and various parts of Colombia. I have a male from Teffé, Brazil, which also is indistinguishable from a west-Ecuadorian male, from certain "Bogotá" skins, and from a male from Tapalisa, eastern Panamá. Taczanowski's description of the female from Yurimaguas agrees with certain "Bogotá" females (other "Bogotá" skins of both sexes are *erythrogenys*). Hellmayr already has identified Natterer's skins from Manaos as *albitorques*. However, a female from the left bank of the Rio Madeira, near its mouth, is inseparable from *pelzelni*. On the south bank of the Amazon, therefore, the ranges of *albitorques* and *pelzelni* must meet near the mouth of the Purús. The lines of connection between Manaos and Teffé, in the range of *albitorques*, are as yet indeterminable.

Specimens are at hand from Villa Bella Imperatríz, Santarem, and Aramanay (Rio Tapajoz) that agree well enough with Matto Grosso skins to be referred to *pelzelni*. There is a great deal of variation in the extent of white on the tail in the series of eleven skins of this form, even in the Matto Grosso specimens, and any subdivision seems inadvisable.

On the other hand, examples of *erythrogenys* from the neighborhood of Faro, Brazil, are even more decidedly variable, although thirty-four specimens from the Guianas, Venezuela, and eastern Colombia are noticeably uniform. Of the eight Faro specimens at hand, one male is rather typical *erythrogenys*, although it has slight terminal white markings on some of the rectrices. Another male is similarly near *erythrogenys* but without the white tip of the tail, although the back is a little darker gray than usual. Both these birds have the basal white of the tail quite narrow. Three other males have the tail white for about two-thirds of the length, and there is a tendency toward the development of white on the lower and posterior auriculars. One of these males even has a white stripe connecting the white base and white tip along the shaft of

the subexternal rectrices, while the subterminal black band in all three specimens is narrower than in most *pelzelni*.

Three females from Faro are equally dissimilar. One has white tips on the rectrices but very little white at the base. Another has the base broadly whitish. The third has the basal white only moderately developed, with the tips also narrowly white, but on most of the rectrices there is a third white area on the inner webs about a third of the way back from the tips, tending to follow the shaft toward the white base. The back is definitely spotted or streaked as in normal *erythrogenys* and *pelzelni*.

It is not easy to say whether the Faro birds approach *albitorques*, *pelzelni*, or both. On account of the spotting of the females and because a male of *pelzelni* from Santarem exhibits some grayish white on the auricular area, as mentioned for some of the intermediate Faro birds, the relationship appears to be closer to *pelzelni* than to *albitorques*. More material from the lower Amazon is extremely desirable.

SPECIMENS EXAMINED

T. i. inquisitor.—BRAZIL: São Paulo, Victoria, 2 ♂, 1 ♀; Ituverava, 1 ♂; Alambary, 1 ♂; Fazenda Cayoá, 1 ♀; Ypanemá, 1 ♀; Minas Geraës, São Francisco, 1 ♂; Rio Jordão, 2 ♂; "Bahia," 2 ♀.

T. i. pelzelni.—BRAZIL: Matto Grosso, Chapada, 2 ♂; Urucum, 1 ♂; Corumbá, 1 ♂; Rio Madeira, Santo Antonio de Guajará, 1 ♀; Villa Bella Imperatríz, 1 ♂, 2 ♀; Rio Tapajoz, Santarem, 1 ♂, 1 ♀; Aramanay, 1 ♀.

T. i. erythrogenys.—BRAZIL: Faro, 5 ♂, 3 ♀. FRENCH GUIANA: Cayenne, 1 ♂. DUTCH GUIANA: Near Paramaribo, 1 ♂, 2 ♀. "Said to be from British Guiana," 1 ♂. VENEZUELA: San Estéban, inland of Puerto Cabello, 2 ♂, 1 ♀; Lagunillas, 1 ♀; Río Catañapa, 1 ♀; Río Caura, San Pedro, 1 ♂; Río Orinoco, Suapure, 1 ♂, 1 ♀; Perico, 1 ♀; Maipures, 2 ♂; Caicara, 5 ♂, 2 ♀. COLOMBIA: "Bogotá," 2 ♂, 2 ♀.

T. i. albitorques.—BRAZIL: Teffé, 1 ♂. ECUADOR: Daule, 1 ♂. COLOMBIA: Yuntas, 1 ♂; "Bogotá," 4 ♂, 8 ♀. PANAMÁ: Tapalisa, 1 ♂.

T. i. buckleyi.—ECUADOR: Archidona, 1 ♀; Napo, 1 ♂; "Ecuador," 1 ♀. COLOMBIA: Florencia, 1 ♂, 1 ♀.

T. i. fraserii.—PANAMÁ: (Lion Hill), 1 ♂, 1 ♀; Boqueron, 1 ♂; Bugaba, 1 ♂; Natá, 1 ♂; Frances, Chiriquí, 1 ♀; Almirante, 3 ♂, 1 ♀; Espartal Isl., 1 ♀; Brava Isl., 1 ♂; Sevilla Isl., 1 ♀. COSTA RICA: Aquinares, 1 ♂; Buenos Aires, 1 ♂; Limón, 1 ♂, 2 ♀; Peratta, 1 ♀; Jiménez, 2 ♂; Guayabo, 1 ♀; Bonilla, 3 ♂, 2 ♀; Carrillo, 1 ♂. NICARAGUA: Los Sabalos, 1 ♂, 1 ♀. GUATEMALA: 2 ♂, 2 ♀, 2 (?).

Pyroderus scutatus masoni Ridgway

Pyroderus masoni RIDGWAY, 1886, Auk, III, p. 333—"supposed to be from the interior of Venezuela," errore = Perú; Pozuzo, Dept. Huánuco suggested, Hellmayr, 1929; U. S. Nat. Mus.

Twelve specimens from northern and central Perú have been com-

pared with the type and paratype of *masoni*. These two specimens are fragmentary, having come from native ornaments. Nevertheless, they are complete enough for detailed examination of their relationships. Dr. Chapman (1914, Bull. Amer. Mus. Nat. Hist., XXXIII, p. 632) already has commented on these birds in comparison with a third fragment of Indian origin known to be from Perú, which agreed with the type and paratype in respect to the depth of color on the breast and the relative completeness of the black pectoral band. The home of *masoni* was thus found to be Perú and not Venezuela.

Among the twelve skins now at hand, there is not one which is as deeply colored below as the type and paratype, although one or two specimens approach it rather closely. Several specimens, in fact, are exceeded in this particular by various examples of *occidentalis* in some of which, also, the pectoral band is about as complete as in one or two of the less well marked *masoni*. It has been of interest, therefore, to discover an additional character which appears to be quite constant and which readily distinguishes *masoni* from *occidentalis*. The character is, rather, one which distinguishes *occidentalis* from all the other subspecies, since, in this particular, *masoni* agrees with all of them but *occidentalis*.

This character is found in the pattern of the individual feathers of the lower breast and belly. In *occidentalis* and *masoni*, these feathers are broadly tipped with chestnut in an extensive area. The extent of this area and the prominence of the chestnut tips are greatly reduced in the other forms although an occasional specimen of typical *scutata* shows a certain approach. In *occidentalis* the rufous tip of these feathers reaches its greatest development and extends half way basad where it meets the gray basal portion with no interruption other than for an inconspicuous buffy bar or spot, not always present. In *masoni* the rufous tip is narrower and separated from the gray base by a broad blackish or dusky brown area which, however, usually is concealed by the imbrication of the plumage, giving an impression of uniform rufescence as in *occidentalis*, until the feathers are lifted for examination. In the remaining forms, the blackish subterminal area is likewise present but, since the rufous tip is still narrower, the black is partially exposed, giving a pattern of rufous spotting on a dark background, more restricted than in *masoni* and *occidentalis*. Certain examples of *masoni*, with the rufous tips at their narrowest for that subspecies, have a limited amount of the blackish subterminal portion of the feathers exposed, but the general appearance and broad extent of the rufous area maintain their

resemblance to other specimens of *masoni* and do not suggest any of the allied forms to any marked degree.

Although the color of the lower breast and belly in *masoni* is sometimes no darker than in *occidentalis*, it has a browner and less rufescent hue. The darker examples perhaps are more rufescent but this apparent effect may be simply a greater intensity rather than a greater warmth of hue. I can find no differences in the color of the throat or of the upper breast above the black pectoral band.

Other records are from Pozuzo and Montaña de Mayro.

I am not convinced as to the distinctness of *P. s. orenocensis* without adequate material for comparison. Certainly three specimens at hand which have been identified as that form are not clearly separable from extreme examples of *granadensis*.

Typical *scutatus* bears a markedly close resemblance to *granadensis* but, besides being larger, it has a more uniformly reddish throat, with the tips of the gular feathers more broadly red and the subterminal yellow spot either obsolete or greatly reduced. The median buffy area of these feathers is much the same in the two forms, but the sub-basal black bar is somewhat stronger in *scutatus*.

Specimens Examined

P. s. scutatus.—Brazil: Paraná, Boca Nova, 1 ♀; Tacaresinho, 1 ♀; "Rio de Janeiro," 1 ♂ (?), 1 ♀ (?); Rio Grande do Sul, 1[♂]; São Paulo, Alembary, 1 ♀; Minas Geraës, Rio Jordão, 3 ♀; São Paulo, Fazenda Cayoá, 1 ♂; Belem de Descalvado, 1 ♂.

P. s. masoni.—Perú: Cushi Libertad 5 ♂, 3 ♀; Guayabamba, 1 ♂; La Lejia, 2 ♀; Río Negro, west of Moyobamba, 1 ♂; (no locality), 2 (?)[1] (type and paratype).

P. s. occidentalis.—Colombia: San Antonio, 2 ♂, 3 ♀; Las Lomitas, 1 ♀; Antioquia, 1 ♂ (?); Gallera, 1 ♂; Altos de Casances, 1 ♂ (?); Cerro Munchique, 1 ♀; La Tigrerra, 1 ♀; La Florida, 2 ♂; above Salento, 1 ♂; El Roble, 1 ♂; "Bogotá," 1 ♂ (?), 3 ♀ (?); (no locality), 1 ♂ (?); Jornel, 2 ♂, 1 ♀.

P. s. granadensis.—Colombia: "Bogotá," 5 ♂ (?), 3 ♀ (?); Tolima, 1 ♂ (?); near San Augustin, 1 ♂; La Palma, 1 ♂. Venezuela: Mérida, 1 ♂, 3 ♂ (?); Capás, 3 ♂, 3 ♀; Valle, 1 ♀ (?).

P. s. orenocensis.—Venezuela: Inland of Puerto Cabello, 1 ♂; Paso Honda, San Estéban Valley, 1 ♂; El Bucaral, San Estéban, 1 ♀ (?).

[1] Specimens in U. S. National Museum, Washington, D. C.